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# MassDEP ORGANICS STUDY AND ACTION PLAN

**May 10, 2012**

## Background

The Draft 2010-2020 Solid Waste Master Plan calls for the Massachusetts Department of Environmental Protection (MassDEP) to aggressively pursue diversion of food and other organic materials from the solid waste stream. Representing more than 25% of the waste stream in Massachusetts after recycling, food waste, compostable paper and other organics are the largest fraction of the remaining waste[1]. In order to achieve the Commonwealth's overall solid waste management goals of reducing the waste we dispose of by 30% by 2020, a concerted effort must be made to recover these organics materials. The Solid Waste Master Plan set a specific objective to:

> Divert at least 35% of food waste from disposal by 2020, which would result in more than 350,000 tons per year of additional diversion activity from targeted business and institutional sectors including:
> - hotels
> - convention centers
> - supermarkets
> - food waste processors
> - large institutions
> - Institutional food service providers.

MassDEP's Clean Energy Results Program calls for development of a study and action plan to identify barriers to meeting the state's organic diversion goals and recommend strategies to overcome those barriers. This study is based on a series of stakeholder meetings, discussions, research, and information gathering that MassDEP has conducted with external stakeholders, beginning with prior Organics Subcommittee meetings, the development of the draft Master Plan, and the

[1] Given relatively high rates of leaf and yard waste diversion, this Plan does not focus on those materials, though they may be combined with food waste in some facilities.

Commonwealth's Organics Task Force and Workgroups that held a series of meetings in 2011. This document is also informed by several pieces of analysis including the food waste density mapping study and recently completed waste composition studies. MassDEP also considered the results of a number or organics diversion projects already underway in Massachusetts and elsewhere.

This Action Plan lays out the programs and initiatives to be pursued over the next several years in order to obtain this objective. This effort will take collaboration from a number of stakeholders including state and local government, businesses, institutions, the solid waste industry and private developers. The Action Plan identifies the primary barriers to achieving the Commonwealth's organics diversion objective in four categories:

- Data Analysis,
- Collection Infrastructure,
- Processing Capacity/ Market Development, and
- Regulatory Reform/Waste Ban.

# Data Analysis

**Barrier:** **Lack of Information on Sources and Amounts of Food Waste**

Stakeholders need better information on organics generation and disposal. This information helps generators, collectors and processors of organics make sound infrastructure investments. This information also helps direct government assistance programs.

| Actions | |
|---|---|
| **Update food waste density mapping study – This identifies major generators of food waste and can assist haulers and processing facilities with routing and facility siting.**<br>o Data updated summer 2011- have posted updated data to MassDEP web site | **Feb 2012** |
| **Conduct further analysis of organics portion of waste stream from Massachusetts waste composition studies**<br>o Confirm residential and ICI composition averages and breakdowns by truck type | **Mar 2012** |
| **Assess food waste generation data**<br>o Work with the Lead by Example Program to quantify current food waste diversion by State facilities. Also gather sector based information on how to advance organics at colleges/universities, hospitals, corrections, convention centers.<br>o Survey large food manufacturers/processors and other large generators to get more information on their organics generation | **July 2012**<br><br>**Dec. 2012** |
| **Establish baseline and develop program measurement and monitoring protocol for statewide efforts (permitted capacity, tons diverted, etc.)** | **Dec. 2012** |

# Collection Infrastructure

**Barrier:** **Lack of Collection and Separation Systems at Generators**

Food waste is often unnecessary and there are opportunities to reduce generation of food waste through more efficient food service operations. Diversion of organics has primarily been done by generators that create significant quantities of organics and have the foresight and management support to advance aggressive recycling programs. Generators need more information, research and technical and financial support to build more robust collection and management systems.

| Actions | |
|---|---|
| **Promote industry best management practices to reduce food waste generation** | **Ongoing** |
| **Determine sectors and businesses most likely to be impacted by proposed waste ban, as defined** | **May 2012** |
| **Develop sector specific best management practices for organics collection programs (supermarkets, hospitals, hotels, etc.)**<br>o Case Studies<br>o How To Workbooks<br>o Education and Promotion | **Jul 2012** |
| **Establish technical assistance and grant programs to divert food waste from public colleges/universities, hospitals, corrections/DHS.**<br>o Prioritize sectors<br>o Develop and begin Technical Assistance Services<br>o Grants for collection containers and other capital for collection | **Jul 2012**<br>**Sept 2012** |
| **Establish technical assistance and loan programs to divert food waste from private colleges/universities, hospitals, nursing homes, hotels, large restaurants.**<br>o Prioritize sectors<br>o Begin Technical Assistance Services<br>o Establish regulatory relief and recognition programs | **Jul 2013**<br>**2013-14** |
| **Pilot organics diversion programs at large generators and publish and share case studies (supermarkets, convention centers, food processors, hospitals, colleges and universities, hotels, large corporate offices with cafeterias, etc)** | **Ongoing** |
| **Continue to support and expand organics diversion program with supermarkets**<br>o Continue Supermarket Recycling Certification Program<br>o Provide technical assistance to supermarkets not currently diverting<br>o Get all supermarkets diverting by 2014 | **Ongoing**<br>**Mar 2012**<br>**Dec 2014** |
| **Establish direct technical assistance effort for food manufacturers and processors by offering free waste audits and program development consulting assistance** | **Dec 2012** |

**Barrier:** **Insufficient Collection Services**

To stimulate competition and reduce costs, more collection service is needed. Generators need to know who can provide service and be able to negotiate for service amongst multiple collectors. Haulers of organics need to achieve route density in order to provide competitive collection services. New collection methods and technologies need to be reviewed and tested.

| Actions | |
|---|---|
| **Provide updated information on Massachusetts food waste processors and haulers (materials accepted, quantities, collection type, etc.)** | **May 2012** |
| **Provide financial assistance to existing and potential haulers to initiate organics collection efforts**<br>o Establish low interest loan program for collection containers and capital equipment through the Recycling Loan Fund | **Jan 2012** |
| **Work with regional groups to develop small generator collection routes**<br>o Provide case studies and "how to" information to regional groups (chambers, chain stores, municipalities) to form cooperative collection routes<br>o Offer grants to fund the establishment of regional collection networks<br>o Offer grants to purchase collection containers | **Jul2013**<br>**Jul 2012**<br>**Jul 2012** |
| **Support efforts to collect organics from residential sources**<br>o Offer grants to municipalities to pilot collection<br>o Offer grants for capital equipment to collect organics at drop-off locations<br>o Continue to offer and encourage technical and financial assistance for backyard composting and other on-site solutions | **Ongoing**<br>**Ongoing**<br>**Ongoing** |
| **Disseminate information on success stories and recognize specific efforts, including efforts to reach the hauling community**<br>o Offer training for Public Health Officials on requirements for dumpster/trash storage areas to better facilitate collection | **Ongoing** |

# Processing Capacity/ Market Development

**Barrier:** **Insufficient Processing Capacity**

Once collected, source separated organics must have a place to go. Although Massachusetts has a number of entities accepting organics for processing and this number is growing, additional capacity is still needed in order to achieve the 350,000 tons of additional organics diversion.

| Actions | |
|---|---|
| **Disseminate information on technologies and financial assistance programs** | |
| o Prepare financial assistance matrix | **Feb 2012** |
| o Create web resources on technologies and case studies | **Jul 2012** |
| o Disseminate information on how best to handle lower quality organics (residential, small business) | **2014** |
| **Public education and outreach strategy** | |
| o Educate public about new composting and AD technologies | **Sept 2012** |
| o Develop FAQ document to address public questions and concerns over different types of facilities/technologies | **Dec 2012** |
| o Work with the Massachusetts Clean Energy Center and other stakeholders to assist local communities with review and oversight of proposed facilities | **Dec 2012** |
| o Discuss best management practices for facility development and siting with environmental advocates and project proponents | **2013** |
| **Encourage municipal expansion of existing composting operations and siting of new operations** | |
| o Solicit proposals for feasibility studies through SMRP Municipal Grant Program | **July 2012** |
| o Provide capital grants or per ton subsidies to municipal operations managing organic material through SMRP Municipal Grants, Mass CEC or Mass DOER Green Communities Program | **July 2012** |
| o Offer training, technical support and information through MACs and staff | **Sept 2012** |
| o Establish simple certification form for small organics operations at municipal sites | **Sept 2012** |
| **Develop Anaerobic Digestion Facilities on State Property** | |
| o Identify state properties for potential private development of organics management facilities | **Summer 2012 -** |
| o Develop agreements with host agency | |
| o Issue RFP for selection of developer | |
| o Work with MassPort to identify and develop potential site | |
| **Encourage new private development or expand existing organics management capacity** | |
| o Provide aggressive low interest loans for private facility development through the Recycling Loan Fund | **Jan 2012 Ongoing** |
| o Pre-permitting assistance | |

| | |
|---|---|
| o Promote more capitalization of and technical assistance to existing farm composting/AD operations to help meet local capacity needs<br>o Support new farm operations<br>o Provide funding opportunities for AD facilities through the Green Communities (DOER) and the MassCEC Organics to Energy Program (MassCEC)<br>o Partner with CEC, DOER, and DAR to leverage and coordinate funding assistance across state financial assistance programs | |
| **Assess and support development of on-site food waste management solutions**<br>o **Research and Test on-site collection and treatment technologies**<br>o In-vessel composting unit case studies<br>o Gather independent evaluations of technologies<br>o Possibly sub to OTA<br>o **Support through targeted grants and loans**<br>o Grants for capital cost of on-site systems at public facilities<br>o Low interest loans for capital cost of on-site systems at private facilities | **Ongoing**<br><br><br><br><br>**Sept 2012**<br>**Jan 2012** |

**Barrier:** **Lack of End-markets For Products**

Once processed, finished products need to find a home. Although there are consistent and sufficient outlets for compost, developing and promoting higher value compost products and uses that increase revenue for processors will help drive down overall system costs thereby improving the cost-effectiveness of organics diversion.

| Actions | |
|---|---|
| **Work with OSD/MassDOT to enhance use of compost products in highway construction**<br>o Education and training on purchase of compost for highway applications<br>o Develop specifications for high value applications as appropriate for high quality compost products<br>o Promote OSD contract for composting soils | |
| **Work with the agricultural sector to identify additional market outlets for compost materials** | |
| **Encourage adoption of procurement practices by municipal highway/public works departments and potential large users such as schools and public golf courses.** | |
| **Compost marketing workshops**<br>o Conduct workshops for composters on how to effectively market compost material | **Jun 2012** |
| **Assess market outlets for materials generated by anaerobic digestion facilities such as the solid and liquid digestate.**<br>o **Potential to eliminate fees for organic and/or recycled fertilizers.** | **Ongoing** |

# Regulatory Reform/Waste Ban

## Barrier: Regulatory Environment that Is Unclear and Considered Cumbersome

The lack of clear permit pathways for organics processing facilities that employ advanced technology such as anaerobic digestion, and concerns about the applicability of the local site assignment process to such facilities, has been a barrier to the expansion of organics capacity in the Commonwealth. Revising the State's solid waste siting regulations to address these issues will help facilitate development of new and expanded capacity.

| Actions | |
|---|---|
| **Revise Regulations to:**<br>o Consider operations that collect, process and recover organic materials as recycling facilities, not solid waste facilities subject to Site Assignment<br>o Establish levels of MassDEP review that maintain environmental and public health protection.<br>o Provide a clear permitting pathway with site specific MassDEP approvals.<br>o Allow wastewater treatment plants to accept organics for processing. | **Summer 2012** |
| **Establish Guidelines and Forms necessary for implementation of the Regulations** | **Summer 2012** |

## Barrier: Need for Steady Supply of Source Separated Organics

Public and private investment in collection systems and processing capacity of organics is contingent on these entities having confidence that a sufficient amount of organic material will be available. While some generators have established programs without a ban, a waste ban is necessary to drive widespread adoption of organics diversion.

| Actions | |
|---|---|
| **Implement Waste Ban on Organic Materials** | |
| o Develop in coordination with the SWAC Organics Subcommittee the framework for a ban on commercially generated organic materials in 2014 | **Sept 2012** |
| o Promulgate Organics Ban regulations and revise guidance | **Jun 2013** |
| o Update Facility Waste Ban Plans | **Mar 2014** |
| o Effective date of Ban – July 1, 2014 | **Jun 2014** |